CLAIMS

1. (currently amended) Circuitry comprising a filter having one or more filter sections, wherein:

at least one of the one or more filter sections comprises a plurality of transconductor (gm) cells; and

~~at least~~ one of the gm cells can itself be configured to have substantially zero transconductance, such that the at least one filter section will oscillate.

2. (original) The invention of claim 1, wherein the at least one filter section is adapted to oscillate at a cutoff frequency of the filter section.

3. (currently amended) The invention of claim 1, wherein the at least one filter section has an input node adapted to receive an input signal for the at least one filter section, an intermediate node, and an output node adapted to present an output signal for the at least one filter section and further comprises:

a first gm cell connected between the input node and the intermediate node;

a first capacitor connected between the intermediate node and a voltage reference;

a second gm cell connected between the intermediate node and the output node;

a second capacitor connected between the output node and the voltage reference;

a third gm cell connected at both ends to the intermediate node; and

a fourth gm cell connected between the output node and the intermediate node, wherein:

the ~~at least~~ one ~~of the~~ gm cell[[s]] is the third gm cell; and

the third gm cell comprises a set of switches that enable the third gm cell to be configured to have substantially zero transconductance, such that the at least one filter section will oscillate.

4. (original) The invention of claim 3, wherein the voltage reference is ground.

5. (original) The invention of claim 1, wherein:

the at least one filter section is in a main signal path of the filter; and

the at least one filter section is adapted to be configured to oscillate in order to tune the at least one filter section.

6. (original) The invention of claim 5, wherein each filter section in the main signal path of the filter can be configured to oscillate in order to tune each filter section.

7. (previously presented) The invention of claim 1, wherein:

the one or more filter sections comprise one or more main-path filter sections and a non-main-path filter section;

the filter comprises a main signal path having the one or more main-path filter sections;

the at least one filter section is the non-main-path filter section, which is not part of the main signal path;

the non-main-path filter section is a replica of at least one main-path filter section in the main signal path; and

the non-main-path filter section is adapted to be configured to oscillate in order to tune the at least one main-path filter section in the main signal path.

8. (original) The invention of claim 1, wherein:

the at least one filter section comprises tuning circuitry adapted to tune the at least one filter section; and

the tuning circuitry is adapted to store tuning control information for the at least one filter section such that the at least one filter section can be tuned intermittently.

9. (previously presented) The invention of claim 8, wherein information based on the tuning control information of the at least one filter section is used to tune one or more other filter sections in the filter.

10. (original) The invention of claim 1, wherein the at least one filter section is adapted to oscillate without relying on phase-locked loop circuitry.

11. (original) The invention of claim 1, wherein the one or more filter sections are biquadratic filter sections.

12. (original) The invention of claim 1, wherein the one or more filter sections are connected to form a ladder structure.

13. (currently amended) A method for operating a filter having one or more filter sections, wherein:

at least one of the one or more filter sections comprises a plurality of transconductor (gm) cells;

the method comprising:

applying power to the filter; and

configuring ~~at least~~ one of the gm cells itself to have substantially zero transconductance, such that the at least one filter section will oscillate.

14. (original) The invention of claim 13, wherein the at least one filter section oscillates at a cutoff frequency of the filter section.

15. (currently amended) The invention of claim 13, wherein:

the at least one filter section has an input node that receives an input signal for the at least one filter section, an intermediate node, and an output node that presents an output signal for the at least one filter section;

the at least one filter section further comprises:

a first gm cell connected between the input node and the intermediate node;

a first capacitor connected between the intermediate node and a voltage reference;

a second gm cell connected between the intermediate node and the output node;

a second capacitor connected between the output node and the voltage reference;

a third gm cell connected at both ends to the intermediate node; and

a fourth gm cell connected between the output node and the intermediate node, wherein:

the ~~at least~~ one ~~of the~~ gm cell[[s]] is the third gm cell; and

the third gm cell comprises a set of switches that enable the third gm cell to be configured to have substantially zero transconductance, such that the at least one filter section will oscillate.

16. (original) The invention of claim 13, wherein:

the at least one filter section is in a main signal path of the filter; and

the at least one filter section is configured to oscillate in order to tune the at least one filter section.

17. (previously presented) The invention of claim 13, wherein:

the one or more filter sections comprise one or more main-path filter sections and a non-main-path filter section;

the filter comprises a main signal path having the one or more main-path filter sections;

the at least one filter section is the non-main-path filter section, which is not part of the main signal path;

the non-main-path filter section is a replica of at least one main-path filter section in the main signal path; and

the non-main-path filter section is configured to oscillate in order to tune the at least one main-path filter section in the main signal path.

18. (original) The invention of claim 13, wherein:

the at least one filter section comprises tuning circuitry that tunes the at least one filter section; and

the tuning circuitry stores tuning control information for the at least one filter section such that the at least one filter section can be tuned intermittently.

19. (original) The invention of claim 18, wherein information about the tuning of the at least one filter section is used to tune one or more other filter sections in the filter.

20. (original) The invention of claim 13, wherein the at least one filter section oscillates without relying on phase-locked loop circuitry.

21. (currently amended) The invention of claim 1, wherein:

the ~~at least~~ one gm cell has <u>switch circuitry connected to</u> first and second input nodes <u>of the at least one gm cell</u>;

the ~~at least~~ one gm cell is adapted to be configured to have non-zero transconductance by selectively applying two different input signals to the first and second input nodes <u>using the switch circuitry</u>; and

the ~~at least~~ one gm cell is adapted to be configured to have substantially zero transconductance by selectively applying a single input signal to the first and second input nodes <u>using the switch circuitry</u>.

22. (previously presented) The invention of claim 21, wherein:

the two different input signals are a differential signal pair; and

the single input signal is a common-mode signal corresponding to the differential signal pair.

23. (currently amended) The invention of claim 13, wherein:

the ~~at least~~ one gm cell has <u>switch circuitry connected to</u> first and second input nodes <u>of the at least one gm cell</u>;

the ~~at least~~ one gm cell is adapted to be configured to have non-zero transconductance by selectively applying two different input signals to the first and second input nodes <u>using the switch circuitry</u>; and

the ~~at least~~ one gm cell is configured to have substantially zero transconductance by selectively applying a single input signal to the first and second input nodes <u>using the switch circuitry</u>.

24. (previously presented) The invention of claim 23, wherein:

the two different input signals are a differential signal pair; and

the single input signal is a common-mode signal corresponding to the differential signal pair.